Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Public Safety and Homeland Security	)	
Bureau Seeks Comment on the	)	PS Docket No. 06-229
Technical and Operational Feasibility	)	
Of Enabling Flexible Use of the 700 MHz	)	
Public Safety Narrowband Allocation and	)	
Guard Band for Broadband Services	)	
	)	

To: The Commission

COMMENTS OF HARRIS CORPORATION

December 3, 2010

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Permitting broadband operations in the 700 MHz public safety narrowband or guard band spectrum will be detrimental to public safety communications and advancing interoperability efforts in the 700 MHz public safety narrowband allocation. Harris is also very concerned about interference that may result by permitting broadband operations in the 700 MHz narrowband public safety allocation and by misconceptions that LTE broadband technology can currently be used as a substitute for mission critical narrowband systems. In this and other public safety proceedings the Commission has always aimed to achieve the highest level of interoperability in public safety communications. The Commission can support current efforts to achieve narrowband interoperability by keeping broadband operations out of the 700 MHz narrowband allocation.

Narrowband voice systems and spectrum will remain a critical component of public safety's mission critical and day-to-day communications for the foreseeable future. Dedicated narrowband spectrum is critical to preserve the integrity of public safety communications and meet the operational and interoperability needs of public safety. While the potential for public safety broadband is great, broadband technology is still in its infancy and remains largely untested in mission critical public safety situations. The record is well settled as to the critical nature of narrowband voice operations to public safety and achieving narrowband voice interoperability.

Permitting broadband operations in the 700 MHz narrowband public safety spectrum or 700 MHz guard band spectrum will also have a detrimental impact on public safety communications from an operational, planning, and interoperability standpoint. The country cannot afford any additional delays in the deployment of new, interoperable, and spectrally

efficient narrowband and broadband public safety systems. While Harris believes it is in the public interest for the Commission to mandate the highest spectrum efficiency in order to optimize the use of scarce spectrum, mandates providing increased spectrum efficiency or flexibility should not be imposed in a vacuum. The interference that could result from allowing broadband operations in the 700 MHz narrowband public safety allocation will degrade the operations of both broadband and narrowband networks, and set back interoperability efforts, and render moot any possible benefits of providing such spectrum flexibility.

Public safety mission critical voice is the lifeblood of public safety and will continue to be for the foreseeable future. In order to encourage narrowband interoperability the Commission must protect mission critical public safety voice communications in the 700 MHz public safety narrowband allocation and not allow broadband operations in the band. Harris encourages the Commission not to create additional obstacles to achieving narrowband interoperability by permitting broadband operations in the 700 MHz narrowband spectrum or 700 MHz guard band spectrum. Instead the Commission should focus its efforts on establishing final rules for deployment of an interoperable, nationwide public safety broadband network; facilitating nationwide narrowband interoperability; and ensuring public safety is prepared and remains on schedule to meet the pending UHF/VHF and 700 MHz narrowbanding deadlines.

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Public Safety and Homeland Security	)	
Bureau Seeks Comment on the	)	PS Docket No. 06-229
Technical and Operational Feasibility	)	
Of Enabling Flexible Use of the 700 MHz	)	
Public Safety Narrowband Allocation and	)	
Guard Band for Broadband Services	)	
	)	

To: The Commission

COMMENTS OF HARRIS CORPORATION

This Comment is submitted on behalf of Harris Corporation ("Harris") before the Federal Communications Commission ("Commission") in response to a Public Notice[1] seeking comment on the feasibility of allowing for flexible use of the 700 MHz public safety narrowband spectrum (769-775/779-805 MHz) and 700 MHz guard bands (768-769/798-799 MHz) for broadband operations. In this and other public safety proceedings the Commission has always aimed to achieve the highest level of interoperability[2] in public safety communications. While Harris endorses ongoing Commission efforts to examine methods to ensure the nation's scarce spectral resources are fully utilized, permitting broadband operations in the 700 MHz public safety narrowband allocation will be detrimental to public safety communications and advancing interoperability efforts. The 700 MHz narrowband public safety spectrum has only recently

[1] Public Safety and Homeland Security Bureau Seeks Comment on the Technical and Operational Feasibility of Enabling Flexible use of the 700 MHz Public Safety Narrowband Allocation and Guard Band for Broadband Services, *Public Notice*, PS Docket No. 06-229, DA 10-1877 (rel. Sept. 28, 2010).

[2] For purposes of this Comment Harris adopts SAFECOM's definition of interoperability, which is defined as the ability of emergency responders to: (1) work seamlessly with other systems or products without any special effort; and (2) share information via voice and data signals on demand, in real time, when needed, and as authorized. *See* http://www.safecomprogram.gov/SAFECOM/interoperability.

become available following the completion of the digital television transition. After nearly a decade of planning public safety is on the verge of mass deployment in the 700 MHz public safety narrowband allocation and one step closer to enabling nationwide voice narrowband interoperability.[3] However, allowing broadband operations in the 700 MHz public safety narrowband allocation will only further complicate interoperability efforts and set the public safety community back in achieving one of its most important operational goals.

Harris is also very concerned about interference that may result by permitting broadband operations in the 700 MHz public safety narrowband allocation and by misconceptions that LTE broadband technology can currently be used as a substitute for mission critical narrowband systems. While it is important to always discuss issues that could promote more efficient use of spectrum, significant interference concerns could render moot any potential benefits that would be provided by spectrum flexibility. In addition, LTE broadband technology is not yet ready to provide the type of assured service and ubiquitous geographic coverage required by public safety that is currently supported by mission critical public safety narrowband voice systems. As a result, public safety will continue to need dedicated access to narrowband spectrum allocations, such as the current 700 MHz public safety narrowband allocation, for the foreseeable future. Harris encourages the Commission to focus its efforts on continuing to promote interoperability across narrowband public safety networks; quickly developing rules for the establishment of an interoperable, nationwide public safety broadband spectrum; and ensuring public safety is prepared to meet the pending UHF/VHF and 700 MHz narrowbanding deadlines.

[3] "The channelized 700-MHz voice channels have only been available for a little over a year and Regional Planning Committees have already fully allocated them in the most dense and critical markets in their 12.5-KHz configurations." Ex Parte Notice of Andrew Seybold, "Response to T-Mobile Technical Paper," PS Docket 06-229, pg. 7 (filed Sept. 10, 2010) ("Seybold T-Mobile Response").

I. HARRIS CORPORATION OFFERS NARROWBAND AND BROADBAND PRODUCTS THAT HELP FACILITATE PUBLIC SAFETY INTEROPERABLITY.

Harris is an international communications and information technology company serving government and commercial markets in more than 150 countries. Harris is a leading technology developer and manufacturer of mission-critical wireless communications for the public safety communications market with more than 500 critical communications systems deployed world-wide. As a pioneer in the development of IP based networks for private radio and broadband applications, Harris supplies industry-leading brands such as VIDA Broadband™, EDACS®, OpenSky®, NetworkFirst™, Provoice™ and the newly released Harris GR-100.[4] To meet the emerging needs of public safety for mobile broadband services, Harris has developed VIDA Broadband LTE, a complete 700 MHz broadband network based on the 3GPP LTE cellular technology. VIDA Broadband LTE is a wireless broadband network designed exclusively for public safety, and uses the same fourth generation cellular network architecture and over-the-air technology, Long Term Evolution ("LTE"), as commercial cellular networks. Harris also offers first responders full-spectrum multiband products for joint public safety operations on the local, state, and federal levels: the Harris Unity™ XG-100 and RF-1033M.

Currently, Harris offers a number of narrowband voice products including: (1) P25 Trunked Systems in Single Site, Multsite and Simulcast configuration that utilize the Harris MASTR V Base Station; (2) OpenSky 700 MHz Networks that utilizes Harris SkyMASTR Base Station and Cell Sites; and (3) P25 and Opensky Mobiles and Portables – Unity, P7300, P7200, M7300 and M7200. The Harris P25^{IP} solution provides interoperability at the network level, with Project 25 ISSI and Network First, or at the subscriber level by incorporation multimode

[4] The Harris GR-100 is a wireless location system that tracks and transits the location of first responders inside buildings, providing detailed position information to incident commanders.

radios, like the Harris Unity family of full spectrum radios. Moving forward, Harris' narrowband roadmap includes deploying P25 Phase 2 mobiles and portables utilizing 2-slot TDMA and continuing to work with its partners in the public safety community to establish true nationwide narrowband interoperability, which Harris believes is still achievable with the support and focus of the Commission.[5] The Commission can currently support efforts to achieve narrowband interoperability by keeping broadband operations out of the 700 MHz narrowband allocation.

II. PUBLIC SAFETY WILL CONTIUE TO NEED ACCESS TO DEDICATED NARROWBAND SPECTRUM FOR THE FORSEEABLE FUTURE.

Public safety narrowband voice communications are the lifeblood of public safety and ensuring there is sufficient narrowband spectrum available to all public safety users is vital.[6] As stated in 2004 by former Chairman Michael Powell:

> Congress has imposed many important obligations on the Commission. One of the Commission's most important commitments is to promote safety of life and property using wire and radio communications. Today, it is more important than ever before that public safety agencies have access to reliable, robust, interference-free communications systems. To protect our communities, our citizens, and our Nation, we must take every action at our disposal to achieve the seamless communications necessary for emergency preparedness and response.[7]

Narrowband spectrum and LMR systems will remain a critical component of public safety's mission critical and day-to-day communications for the foreseeable future. Dedicated

[5] *See* Reply Comments of Harris Corporation, Public Safety and Homeland Security Bureau Seeks Comment on Increasing Public Safety Interoperability by Promoting Competition for Public Safety Communications Technologies, PS Docket No. 10-168, pgs. 6-9 (filed Oct. 14, 2010) (discussing Harris "network layered approach" to achieving nationwide narrowband voice interoperability).

[6] *See e.g.*, Comments of Harris Corporation, *Public Notice #8 Public Safety, Homeland Security, and Cybersecurity Elements of the National Broadband Plan*, PS Docket Nos. 06-229, 07-100, 07-114 GN Docket Nos. 09-47, 09-51, 09-137; WT Docket No. 06-150; CC Docket No. 94-102; WC Docket No. 05-196, pgs. 6-7 (filed Nov. 12, 2009).

[7] Statement of Chairman Michael Powell, In the Matter of Improving Public Safety Communications in the 800 MHz Band, *Report and Order*, WT Docket No. 02-55, 19 FCC Rcd. 14969, 15221 (rel. Aug. 6, 2004) ("800 MHz R&O").

narrowband spectrum is critical to preserve the integrity of public safety communications and meet the operational and interoperability needs of public safety.

Narrowband LMR systems have been built to meet the specific voice and low speed data requirements of public safety, which includes ubiquitous geographic coverage, prioritization, reliability, and critical applications such as talk-around and push-to-talk. While the potential for public safety broadband is great, broadband technology is still in its infancy and remains largely untested in mission critical public safety situations. The Commission should not let industry excitement surrounding LTE and potential uses of LTE technology for mission critical public safety services overshadow the importance of narrowband voice communications for the foreseeable future.

The record is well settled as to the critical nature of narrowband operations to public safety and achieving narrowband voice interoperability. Numerous leading public safety organizations have noted the critical importance of narrowband voice systems to public safety communications, including the Association of Public Safety Communications Officials-International,[8] the National Public Safety Telecommunications Council,[9] and the Major Cities

[8] "While LTE will likely offer a voice component, that will not replace mission-critical land mobile radio systems for mission critical voice communications…voice will probably remain the "most" mission-critical communication, as data is unlikely to provide a substitute in life-threatening situations where communication is "rapid fire" and often requires hands-free operation (*e.g.*, at a fire, medical emergency, or crime-in-progress situation)." Comments of the Association of Public Safety Communications Officials-International, *Public Notice #8 Public Safety, Homeland Security, and Cybersecurity Elements of the National Broadband Plan*, PS Docket Nos. 06-229, 07-100, 07-114; GN Docket Nos. 09-47, 09-51, 09-137; WT Docket No. 06-150; CC Docket No. 94-102; WC Docket No. 05-196, pg. 9 (filed Nov. 12, 2009) ("Comments of APCO Public Notice 8").

[9] "NPSTC opposes use of the 700 MHz narrowband or guard band spectrum for broadband operations. Doing so would eliminate the ability to use the narrowband segments for its primary intended use of mission critical voice systems, within portions of the same or adjacent regions. As noted in an ex parte letter from the Public Safety Spectrum Trust (PSST), it would likely be 10 to 15 years or more before most public safety entities would be in a position to seriously consider substituting broadband voice for today's land mobile radio mission critical voice solutions." Comments of National Public Safety Telecommunications Council, *Public Safety and Homeland Security Bureau Seeks Comment on Petitions for Waiver to Deploy 700 MHz Public Safety Broadband Networks*, PS Docket No. 06-229, pg. 5 (filed Oct. 16, 2009).

Chiefs of Police.[10] Wireless telecommunications providers have also recognized the importance of narrowband systems to public safety.[11] However, despite numerous filings detailing the long term need by public safety of 700 MHz narrowband spectrum there exists a "misconception by some that in 2-3 years wireless broadband will be an alternative to Land Mobile Radio (LMR) mission critical public safety voice systems."[12]

Public safety has unique mission critical voice requirements that today and for the foreseeable future will only be able to be met by narrowband systems.[13] While this will likely not always be the case, current broadband LTE technology is still in the very early stages of deployment.[14] As of today LTE broadband technology does not yet provide the type of assured mission critical voice communications required by public safety, ubiquitous geographic coverage offered by narrowband voice systems, or adequately address some of the most critical voice

[10] "The 700 MHz public safety narrowband channels form the basis of many jurisdictions plans for mission critical voice communications…[t]he Major Cities Chiefs is committed to the preservation of the 700 MHz narrowband channels as currently defined in the Commission's rules." Comments of Major Cities Chiefs of Police, *Public Safety and Homeland Security Bureau Seeks Comment on Petitions for Waiver to Deploy 700 MHz Public Safety Broadband Networks*, PS Docket No. 06-229, pgs 6-7 (filed Oct. 16, 2009).

[11] "Now and for the foreseeable future, the public safety community considers voice applications (*e.g.*, "one-to-many" dispatches and direct unit-to-unit communications conducted without accessing any fixed infrastructure) to be the most mission critical. These voice applications rely primarily on existing, privately operated and maintained Land Mobile Radio ("LMR") systems rather than broadband networks." Comments of AT&T, Inc., *Public Notice #8 Public Safety, Homeland Security, and Cybersecurity Elements of the National Broadband Plan*, PS Docket Nos. 06-229, 07-100, 07-114; GN Docket Nos. 09-47, 09-51, 09-137; WT Docket No. 06-150; CC Docket No. 94-102; WC Docket No. 05-196, pg. 4 (filed Nov. 12, 2009).

[12] *See* Ex Parte White Paper of Harlin McEwen, "Wireless Broadband is Not an Alternative to LMR Mission Critical Voice Systems," PS Docket 06-229, pg. 1 (filed Oct. 12, 2009) ("McEwen White Paper").

[13] "First, millions of dollars have already been spent in implementing traditional land mobile public safety voice systems in this spectrum and many more are already planned. To stop that progress would be disastrous to the public safety community and the communities they serve. Secondly, and equally as important, is that the claims that in 2- 3 years broadband will begin replacing land mobile mission critical voice radio services are based on lack of knowledge of the possibilities to accomplish this." Id. at pg. 4-5.

[14] "The fact is there are currently no broadband standards being developed or even planned that will allow such an alternative. Current and planned broadband standards and technologies depend on a network approach while public safety must also have a non-network capability to communicate in emergencies when a network cannot be reached or is out of service." Id. at pg. 1.

features required by public safety to perform both their day-to-day operations and emergency operations.[15]

Voice communications are a first responder's lifeline. First responders must be 100% certain that their call will be heard and directed as warranted by the situation. As comprehensively discussed by Andrew M. Seybold in a White Paper entitled "Incident Communications," providing this level of assured communications based on the current needs of public safety is not yet possible utilizing LTE broadband technology.[16] The current need of public safety, as illustrated by a diverse cross-section of interested parties, requires full unencumbered access to the public safety narrowband spectrum. Instead of pursuing a proposal that will result in a zero sum gain, the Commission should focus on establishing final rules for deployment of an interoperable, nationwide public safety broadband network; encouraging nationwide narrowband interoperability; and continuing to take steps to help public safety meeting narrowbanding deadlines in the UHF/VHF and 700 MHz public safety spectrum bands.

III. ALLOWING BROADBAND OPERATIONS IN THE 700 MHZ PUBLIC SAFETY NARROWBAND OR GUARD BAND SPECTRUM WILL HAVE A DETRIMENTAL IMPACT ON PUBLIC SAFETY COMMUNICATIONS AND INTEROPERABILITY.

Permitting broadband operations in the 700 MHz narrowband public safety spectrum or 700 MHz guard band spectrum will have a detrimental impact on public safety communications

[15] "The current technical limitations of 4G technologies to provide required voice communication functionality for first responders (*i.e.*, unit-to-unit), and initial coverage limitations, are likely to prevent full convergence of all public safety voice and data communications until far into the future, if ever." *Comments of APCO Public Notice 8*, *supra* note 7, at p. 11; "The fact is there are currently no standards being developed or even planned to provide such a service. The public safety community has endorsed Long Term Evolution (LTE) as the preferred broadband standard for public safety data products and the latest version of that standard (V8) is strictly a data standard that does not include voice capability. The next version (V9) due in late 2010 or early 2011 is planned to include Voice over Internet Protocol (VoIP) capabilities but that version will not have any capability to provide one-to-many communications and talk around (unit to unit) voice necessary for mission critical public safety communications. LTE is a commercial standard that does not recognize the mission critical voice communications needs of public safety." *McEwen White Paper*, *supra* note 14, at pgs. 4-5.

[16] *See* Letter of Andrew Seybold, "Incident Communications," PS Docket No. 06-229 (filed July 26, 2010).

from an operational, planning, and interoperability standpoint. For example, Regional Planning Committees will have to revise spectrum allocations to take into account broadband operations and public safety entities will need to reconfigure networks and equipment to prevent interference. Such activities will place additional financial burdens on already stretched public safety budgets and resources. Likewise, public safety vendors, such as Harris, will have to make adjustments to their existing narrowband product lines to meet new public safety narrowband requirements. Given the importance of mission critical narrowband voice systems and the growing capacity constraints within other narrowband public safety spectrum allocations, such as within the 800 MHz band,[17] disrupting the operation of current narrowband systems and planned network deployments would determinately impact public safety's ability to perform its day-to-day and mission critical functions.

To date, 33 Regional Planning Committees ("RPC") have had their 700 MHz narrowband coordination plans approved by the Commission and four additional RPCs have submitted their plans and are awaiting Commission approval. RPCs have already had to go through the process of revising their band plans once following the Commission's rebanding of the 700 MHz public safety spectrum. The spectrum planning process for the 700 MHz public safety narrowband spectrum has already taken nearly a decade and permitting broadband operations in the spectrum band will only drag that process out longer. RPCs have previously noted the hardship placed on jurisdictions as a result of needing to revise plans[18] and have already started to file in response to

[17] "The designation of the narrowband 700 MHz spectrum is an essential resource, especially for those who are out of channels in the adjacent 800 MHz band." Comments of the National Public Safety and Telecommunications Council, *Public Safety and Homeland Security Bureau Seeks Comment on Increasing Public Safety Interoperability by Promoting Competition for Public Safety Communications Technologies*, PS Docket No. 10-168, pg 11(filed Oct. 14, 2010).

[18] *See e.g.,* Service rules for the 698-746, 747-762 and 777-792 MHz Bands; Implementing a Nationwide, Broadband Interoperable Public Safety Network in the 700 MHz Band, *Second Report and Order*, WT Docket No.

the instant Public Notice with similar responses.[19] While in 2007 the *700 MHz Second Report and Order* the Commission ultimately determined that "the costs and inconveniences of consolidating the narrowband channels are minor compared to the relative potential for accommodating future technologies," today many jurisdictions have either completed or are in the process of deployment. Permitting broadband operations in the 700 MHz public safety narrowband allocation would require RPC's and their member jurisdictions to reevaluate their band plans, which would be unduly burdensome on the public safety community and are counter to the public interest.

The disruptions caused by allowing broadband operations in the 700 MHz public safety narrowband allocation will also distract the public safety community from a number of other ongoing public safety efforts including: UHF/VHF narrowbanding requirements, which are scheduled to take effect on January 31, 2013; 700 MHz rebanding requirements, which are scheduled to take effect on January 1, 2017; establishing a interoperable, nationwide public safety broadband network, for which rules have not yet been adopted and spectrum allocation finalized; and coordinating nationwide narrowband network interoperability, with the 700 MHz public safety narrowband spectrum being a crucial component of facilitating nationwide

---

06-150, PS Docket No. 06-229, 22 FCC Rcd. 15289, 15414, ¶ 345 (rel. Aug. 10, 2007) (citing comments of the State of Washington (Region 43), the State of Kansas (Region 16) and the State of Ohio (Region 33)).

[19] "Region 12 is strongly opposed to changing the current narrowband public safety spectrum to allow broadband use. This opposition is directly related to the fact that in 2008, the FCC allowed rebanding of the 700 MHz spectrum which greatly impacted the Ada, Bannock, Bingham County radio systems. These systems were licensed under the old 700 MHz band plan and were subsequently forced to reband to the current plan. This rebanding caused both of these agencies financial and operational hardships as they were forced to spend hundreds of thousands of dollars to reprogram & re-license their radio systems and thousands of subscribers." Comments of Region 12 (Idaho) 700 MHz Regional Planning Committee, *Public Safety and Homeland Security Bureau Seeks Comment on the Technical and Operational Feasibility of Enabling Flexible use of the 700 MHz Public Safety Narrowband Allocation and Guard Band for Broadband Services*, PS Docket No. 06-229 (filed Nov. 18, 2010).

narrowband interoperability.[20] Several public safety entities have already highlighted how broadband operations in the 700 MHz narrowband spectrum would adversely affect their narrowband operations including, but not limited to, the State of Delaware,[21] State of Maryland,[22] the City of Houston,[23] and the State of Ohio.[24]

The country cannot afford any additional delays in the deployment of new, interoperable, and spectrally efficient narrowband and broadband public safety systems. The lack of interoperability has been exacerbated over the years by the allocation of disparate blocks of

[20] "The addition of the 700 MHz interoperability channels will greatly enhance mutual aid response in southern California. Of the ten counties in Southern California, five Counties use a multiagency 800 MHz voice system for primary public safety communications in their County. Until the availability of the 700 MHz interoperability channels only 7 channels5 are available at 800 MHz for interoperability communications." Comments of Region 5 (Southern California) 700 MHz Regional Planning Committee, *Public Safety and Homeland Security Bureau Seeks Comment on the Technical and Operational Feasibility of Enabling Flexible use of the 700 MHz Public Safety Narrowband Allocation and Guard Band for Broadband Services*, PS Docket No. 06-229 (filed Nov. 22, 2010); *See also* Seybold T-Mobile Response, *supra* note 3, at pgs. 2, 19 and 26 (discussing how modifying the current 700 MHz narrowband allocation would be a step backwards for the goal of achieving nationwide voice interoperability).

[21] "There are no other frequency bands within the land mobile spectrum used by public safety for voice operations where such a wide number of nationwide interoperability channel resources are found. These 700 MHz narrowband voice channels are not only unique, they are critical to the country's homeland security program and the national Emergency Communications Plan ("NECP")." Letter of the State of Delaware, "Reaction to the Concept of 700 MHz Band Plan Flexibility," PS Docket No. 06-229, pg. 9 (filed July 15, 2010).

[22] Maryland is particularly sensitive to the need to support homeland security communications requirements and to maintain the 700 MHz interoperability channels throughout the United States…With the State's contiguity with several other states, we would be extremely concerned with a flexible band plan that might require our engineers to mitigate destructive interference from broadband as well as narrowband voice users. Letter of the State of Maryland, "Reaction to the Concept of 700 MHz Band Plan Flexibility," PS Docket No. 06-229, pg. 2 (filed July 23, 2010).

[23] "To construct a system that will meet the needs of the city of Houston first responders, we will be using ALL available 700 MHz frequencies allotted to local government users as well as the vast majority of 700 MHz frequencies allocated to the state of Texas. Without the 700 MHz frequency band, the City would not be able to construct a modern, interoperable, public safety radio system…the City absolutely requires the 700 MHz narrowband spectrum to support our voice system deployment." Letter of the City of Houston, Texas, "Reaction to the Concept of 700 MHz Band Plan Flexibility," PS Docket No. 06-229, pgs. 1-2 (filed July 22, 2010).

[24] "To permit portions of the current narrowband 700 MHz voice spectrum to be used for broadband purposes could cause Ohio's in-progress upgrade of MARCS in the Cleveland area irreparable harm and prevent public safety communications-essential Interoperability in Ohio's second largest Metropolitan Statistical Area." Letter of the State of Ohio, "Reaction to the Concept of 700 MHz Band Plan Flexibility," PS Docket No. 06-229, pg. 3 (filed July 28, 2010).

spectrum for public safety use.[25] Harris encourages the Commission not to create additional obstacles to achieving narrowband interoperability by permitting broadband operations in the 700 MHz narrowband spectrum or 700 MHz guard band spectrum. Instead the Commission should focus its efforts on establishing final rules for deployment of an interoperable, nationwide public safety broadband network; facilitating nationwide narrowband interoperability; and assisting public safety meet the Commission's current UHF/VHF and 700 MHz narrowbanding requirements.

IV. PERMITTING BROADBAND OPERATIONS IN THE 700 MHZ PUBLIC SAFETY NARROWBAND OR GUARD BAND SPECTRUM IS LIKELY TO CAUSE SIGNIFICANT INTERFERENCE.

One of the Commission's primary statutory duties under the Communications Act is to prevent interference between users.[26] While the Commission is also encouraged under the Communications Act to provide spectral flexibility of use,[27] such flexibility is expressly prohibited from "result[ing] in harmful interference among users."[28] Harris believes it is in the public interest for the Commission to mandate the highest spectrum efficiency in order to optimize the use of scarce spectrum, however mandates providing increased spectrum efficiency or flexibility should not be imposed in a vacuum. The interference that would be caused by allowing broadband operations in the 700 MHz narrowband public safety spectrum or 700 MHz guard band spectrum will degrade the operations of both broadband and narrowband networks,

[25] *See* Statement of Chief Jeffrey Johnson, Before the U.S. House of Representatives Committee on Science and Technology Subcommittee on Technology and Innovation, "Interoperability in Public Safety Communications Equipment" (May 27, 2010).

[26] See 47 U.S.C. § 303(f).

[27] See 47 U.S.C. § 303(y).

[28] 47 U.S.C. § 303(y)(2)(C).

set back public safety interoperability efforts, and render moot any possible benefits of providing such spectrum flexibility.

A parallel can be drawn between the interference potential posed by permitting broadband operations in the 700 MHz public safety narrowband allocation and the interference experienced by public safety in the 800 MHz band as a result of the Nextel iDEN system. The interference caused by the Nextel iDEN system has cost the public safety community significant amounts of money—beyond relocation costs that are being covered by Sprint-Nextel—and significantly hampered public safety's communications capabilities due to extended periods of network downtime to facilitate relocation. One of the key factors in the Nextel iDEN interference is the fact that two disparate technologies, with different specifications and requirements, were collocated in spectrum and interfered with each other because the systems were not designed from the beginning to co-exist. Similar issues could occur if broadband operations are allowed in the public safety narrowband allocation.

The 700 MHz public safety narrowband spectrum is just as important today to public safety as the Commission found the 800 MHz band was to public safety during the 800 MHz relocation proceeding.[29] With an understanding of the impact that resolving interference in the 800 MHz band had on the public safety community the Commission should carefully evaluate all interference concerns asserted in the current proceeding by commenters. The burden of proof should be placed on proponents of permitting broadband operations in the 700 MHz public safety narrowband allocation to prove, beyond a reasonable doubt, that harmful interference <u>will not</u> occur.

[29] "With many of our Nation's first responders using the 800 MHz band for critical public safety communications (*e.g.*, to communicate with their respective dispatchers and each other at the scene of an incident), this band has become a linchpin in their ability to communicate effectively." *800 MHz R&O*, *supra* note 7, at 14972, ¶ 2.

The Commission must continue to support and protect mission critical narrowband voice systems from interference. As previously noted by the Commission, "the Homeland Security obligations of the Nation's public safety agencies make it imperative that their communications systems are robust and highly reliable."[30] Mission critical voice systems provide the majority of public safety communications and are critical during emergencies. Voice communications are the life blood of public safety by providing ubiquitous geographic coverage, required mission critical applications, and superior reliability. Although the benefits of public safety broadband stand to be enormous, deployment of broadband services must not be completed at the detriment of mission critical voice operations. Likewise, spectral flexibility should not be provided at the detriment of ensuring reliable public safety communications.

Allowing broadband operations in the 700 MHz public safety narrowband allocation poses a significant risk for crippling interference with existing and planned 700 MHz public safety narrowband networks.[31] Specifically, there is a high risk of interference between broadband and narrowband operations within a licensee's geographic coverage area and at the edge of a licensees' geographic area with adjacent regions. To prevent likely interference that could hamper public safety communications efforts Harris strongly urges the Commission not to permit broadband operations in the 700 MHz public safety narrowband allocation.

V. CONCLUSION

For the reasons set forth above, Harris believes that permitting broadband operations in the 700 MHz public safety narrowband spectrum or 700 MHz guard band spectrum will have a

[30] Id. at 14971, ¶ 1.

[31] See Comments of Andrew Seybold, *Public Safety and Homeland Security Bureau Seeks Comment on the Technical and Operational Feasibility of Enabling Flexible use of the 700 MHz Public Safety Narrowband Allocation and Guard Band for Broadband Services*, PS Docket No. 06-229, pgs. 9-11 (filed Nov. 29, 2010) (responding to Question 16 of the Public Notice regarding interference impact by removing the guard bands or providing broadband operations in the 700 MHz narrowband spectrum).

detrimental impact on public safety communications and those that public safety is committed to protecting. Public safety mission critical voice is the lifeblood of public safety and will continue to be for the foreseeable future. In order to encourage narrowband interoperability the Commission must protect mission critical public safety voice communications by not permitting broadband services in the 700 MHz public safety narrowband allocation.

Respectfully submitted,

HARRIS CORPORATION
600 Maryland Avenue, S.W.
Suite 850E
Washington, D.C. 20024
(202) 729-3700

_____/s/_____

Tania Hanna, Esq.
Director, Government Relations
Harris Corporation

JoAnne Koravos Dalton
Government Relations and Regulatory Policy
Public Safety & Professional Communications Business Unit

Evan S. Morris, Esq.
Legal Analyst, Government Relations
Harris Corporation

December 3, 2010